

WHAT IS CLAIMED IS:

1. A shutter opening/closing mechanism of the type coping with a disc cartridge in which a disc-shaped recording medium, an inner rotor and a shutter are provided in a housing and in which an aperture formed in said housing is opened or closed by said shutter by rotation of said inner rotor, said shutter opening/closing mechanism opening/closing said shutter by rotation of said inner rotor, and comprising

a base relatively movable along one lateral surface of said housing;

a first engagement member provided to one end of said base for engaging with a first mating engagement section provided to the outer rim of said inner rotor facing outwards from a lateral side of said housing when said shutter is closed;

a second engagement member provided to the other end of said base for engaging with a second mating engagement section provided to the outer rim of said inner rotor facing outwards from a lateral side of said housing when said shutter is opened; and

a rack member mounted between said first engagement member and the second engagement member of said base for meshing with a gear provided in a preset area of the outer rim between said first mating engagement section and the second mating engagement section of said inner rotor;

said first engagement member and the second engagement member being mounted to said base so that the distal ends thereof are movable in a direction

perpendicular to the direction along one lateral surface of said housing and pivotable along said one lateral surface of said housing.

2. The shutter opening/closing mechanism according to claim 1 further comprising

a first torsion coil spring and a second torsion coil spring each having a coiled part of a wire retained by said base, and having one of both ends of the coiled part of the wire retained by said base and having the other end resiliently movable in a direction perpendicular to the direction along one lateral surface of said housing;

said first engagement member and the second engagement member being retained by holders provided to said base with the distal ends of the first engagement member and the second engagement member protruded from said holders towards one lateral surface of said housing and with the proximal ends thereof biased by the opposite ends of said first torsion coil spring and the second torsion coil spring.

3. The shutter opening/closing mechanism according to claim 1 wherein said rack member is mounted to said base so that said rack member is moved in a direction perpendicular to a direction along said lateral surface of said housing.

4. The shutter opening/closing mechanism according to claim 3 further comprising

biasing means for biasing said rack member towards said lateral surface of

said housing;

said rack member being retained by a holder provided to said base and biased by said biasing means for protruding from said holder towards a lateral surface of said casing.

5. The shutter opening/closing mechanism according to claim 4 wherein said biasing means includes a compression coil spring arranged between said rack member and the holder of said base.

6. A disc driving apparatus of the type coping with a disc cartridge in which a disc-shaped recording medium, an inner rotor and a shutter are provided in a housing and in which an aperture formed in said housing is opened or closed by said shutter by rotation of said inner rotor, said disc driving apparatus recording and/or reproducing signals on or from said disc-shaped recording medium, and comprising

a loading mechanism for causing movement of said disc cartridge between a pull-out position in which the disc cartridge is pulled out to outside a main body unit of the apparatus and a housed position in which the disc cartridge is housed within said main body unit of the apparatus; and

a shutter opening/closing mechanism for opening/closing said shutter by rotating said inner rotor of said disc cartridge moved by said loading mechanism between said pull-out position and said housed position to effect opening/ closure of said shutter;

said shutter opening/closing mechanism including a base relatively movable along one lateral surface of said housing, a first engagement member provided to one end of said base for engaging with a first mating engagement section provided to the outer rim of said inner rotor facing outwards from a lateral side of said housing when said shutter is closed, a second engagement member provided to the other end of said base for engaging with a second mating engagement section provided to the outer rim of said inner rotor facing outwards from said lateral side of said housing when said shutter is opened, and a rack member mounted between said first engagement member and the second engagement member of said base for meshing with a gear provided in a preset area of the outer rim between said first mating engagement section and the second mating engagement section of said inner rotor;

said first engagement member and the second engagement member being mounted to said base so that the distal ends thereof are movable in a direction perpendicular to the direction along said lateral surface of said housing and pivotable along said lateral surface of said housing.

7. The disc driving apparatus according to claim 6 wherein said shutter opening/closing mechanism further comprises

a first torsion coil spring and a second torsion coil spring each having a coiled part of a wire retained by said base, and having one of both ends of the

coiled part of the wire retained by said base and having the other end resiliently movable in a direction perpendicular to the direction along one lateral surface of said housing;

said first engagement member and the second engagement member being retained by holders provided to said base with the distal ends of the first engagement member and the second engagement member protruded from said holders towards one lateral surface of said housing and with the proximal ends thereof biased by the opposite ends of said first torsion coil spring and the second torsion coil spring.

8. The disc driving mechanism according to claim 6 wherein said rack member is mounted to said base so that said rack member is moved in a direction perpendicular to a direction along said lateral surface of said housing.

9. The disc driving mechanism according to claim 8 wherein the shutter opening/closing mechanism further comprises

biasing means for biasing said rack member towards said lateral surface of said housing;

said rack member being retained by a holder provided to said base and biased by said biasing means for protruding from said holder towards a lateral surface of said casing.

10. The disc driving mechanism according to claim 9 wherein said biasing means includes a compression coil spring arranged between said rack member and the

holder of said base.